REMARKS

This amendment is in response to the Office Action mailed December 30, 2005. It includes changes to correct a minor typographical error in one claim, and it updates the status of related applications. The title has also been amended.

Claim 16

In one general aspect, as presented in claim 16, the invention features a method for visualizing data that can be used to automatically create visualization environments from data. This method includes retrieving data records from a data set, and automatically detecting a data range for each of at least some of the fields in the retrieved data records. A display query device is automatically assigned to each of the fields, and at least one graphical visualization of relationships between at least a subset of the retrieved data records is displayed. Adjustment by the user of one or more of the query devices is sensed, and the graphical visualization is adjusted based on this sensing.

Automatically detecting data ranges for retrieved fields and automatically assigning query devices to them is a very powerful way to allow users to work with data. This arrangement can allow the users to select a data set and then immediately begin interacting with it. There is no need for them to decide on an appropriate scale for the data or determine query device types for a potentially large number of fields. There is not even a need for them to have much of an idea of what is in the data set, let alone know what the ranges are for each field. The users can just begin exploring the data within seconds or less.

This approach to interacting with data removes much of the formalism from data analysis tasks. Instead of wasting mental energy on the mechanics of manually determining data ranges or manually configuring query devices, the user can immediately begin to seek meaningful patterns in information that is buried deep within the data. The result is an interactive, creative process that tends to yield a high degree of insight into the data. This is very important in "high change" environments where pre-programming tends not to be very viable.

Automatically detecting data ranges for retrieved fields and automatically assigning query devices to them is also highly efficient. Because this approach can allow users to begin experimenting with data visualizations more quickly, it also allows them to obtain results more

quickly. This can translate into substantial improvements in productivity for professionals that perform data analysis tasks routinely.

Claim 16 stands rejected as anticipated by an article by Williamson entitled "The Dyanmic HomeFinder: Evaluating Dynamic Queries in a Real-Estate Information Exploration System." The Office Action argues that the Williamson article satisfies all of the elements of claim 16.

But the Williamson article does not disclose automatically detecting data ranges for retrieved fields and automatically assigning query devices to them. Williamson's data ranges and query devices are simply presented in the context of a program that is already running (see page 340, ¶ 1-2), and Williamson says nothing about detection of ranges or assignment of query devices. These types of steps might be manual steps instead of automatic ones, or they could be absent altogether. And absence from a reference of any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1542, 230 USPQ 81 (Fed. Cir. 1983).

There is also additional evidence that the version of Williamson's HomeFinder program described in his article did not perform range detection, and that its query device assignments were fixed manually by its programmer. This evidence is apparent from the operation of a 1992 version of the HomeFinder program that has been made available by the University of Maryland. The University of Maryland describes this version as their "classic 1992 DOS application that demonstrates the concept of dynamic queries in a familiar real-estate domain." This statement implies that it is the program described in its author's publications, and operating the program yields screens that are very similar to those shown in the Williamson paper at issue. The examiner can obtain a copy of the program at http://www.cs.umd.edu/hcil/pubs/products.shtml.

Simple observation of this program demonstrates that its query device ranges and allocations are hard-coded for one specific data set. More specifically, the second column of the data file that the program uses (dq.dat) represents the number of bedrooms. This can be readily shown by deleting all of the records in the file, except for the first one, and running the program to show a single dot representing a four-bedroom house (see Appendix A). Changing the value in the second column to five and then running the program again causes the program to display the same single dot as representing a five-bedroom house, as long as the bedroom slider is positioned to include five within its active range of one to seven (see Appendix B).

But the house disappears if the number of bedrooms is set to eight or above (see Appendix C). This indicates that the bedroom slider has a hard-coded range of one to seven that

does not depend on detecting ranges from the data file. It also does not appear that the bedroom slider, or any other slider, can be assigned to another variable. A user could thus not use the HomeFinder program on other types of databases, without taking the time to manually alter its software code to change data ranges and query device assignments. And even to a proficient programmer, which not all users are, this would be a cumbersome undertaking that could interfere with, and prolong, the data analysis process *ad infinitum*.

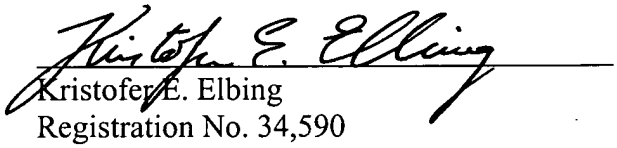
For the reasons presented above, it is clear that the program described in Williamson's paper does not disclose or suggest an automatic data range detection feature coupled with automatic assignment of query devices. And the operation of at least one actual version of his program supports this conclusion. Absent any further information, therefore, the evidence of record clearly shows that claim 16 patently distinguishes over Williamson's work.

Claims 35 and 36 distinguish over the prior art of record for reasons similar to those advanced in support of claim 16. Claims 15-34 are allowable for at least the reason that they depend on an allowed claim.

This application should now be in condition for allowance, and a statement to this effect is respectfully requested. Should further questions arise concerning this application, the Examiner is invited to call Applicants' representative at the number listed below. The Commissioner is hereby authorized to charge any additional fees that may be required, or credit any overpayment, to Deposit Account No. 50-0750.

Respectfully submitted,

March 6, 2006
Dated



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